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ABSTRACT

This guide, which is one of a series of three guides designed to provide state and local leaders, policymakers, practitioners, and other stakeholders with information about the work-based learning component of the School to Work Opportunities Act, deals with occupational education. The introduction traces the history of school-to-work initiatives, lists components of successful programs, and explains the guide's purpose and use. Discussed in the remaining five chapters are the following topics: work-based learning, contracted instruction, cooperative education plans, school-to-apprenticeship, and registered apprenticeships. Each chapter contains an overview of the program followed by: a description of the program type; participant outcomes; required design criteria; benefits to students, employers, and schools; keys to successful programs; credentials earned through the program; and related resource materials. Throughout the guide, special attention is given to Michigan work-based learning programs and related resource materials and resource organizations. Contains 32 references and a glossary. (MN)

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# *A Guide to Work-based Learning Programs:*

## *Part I - Occupational Learning*

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*First Edition - 1995*

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# Preface

Effective School-to-Work systems assist students in making the transition from school to work. This transition may lead to a good first job on a career pathway, further training in a highly skilled occupation, or continued education in a college or university.

Michigan's School-to-Work system is achieved by building upon and enriching current promising practices and delivering them through programs that contain the following basic components:

- school-based learning; including career awareness, exploration, counseling, challenging academic and skill standards, coherent and articulated instruction, and regularly scheduled evaluations of programs;
- work-based learning; including planned occupational learning and experiences relevant to a student's career and leading to the award of a skill certificate, paid work experience, workplace mentoring, and instruction in general workplace competencies; and,
- connecting activities to ensure coordination between the work-based and school-based learning components.

The Michigan School-to-Work system is designed and implemented by state and local personnel who work collaboratively to establish partnerships of employers, schools, labor organizations, parents, students, and community members to meet their community needs.

Common features of each community School-to-Work system are the integration of work-based and school-based learning, the integration of occupational and academic learning, the linkage of secondary and post secondary education and the preparation of students for employment in broad occupational clusters or industry sectors -- all resulting in students attaining one or more of the following:

1) a high school endorse diploma, or its equivalent;
2) a skill certificate;
3) a certificate or associate degree recognizing successful completion of one or two years of postsecondary education;
4) a first job on a career pathway, or
5) further training, including registered apprenticeship, or continuing education in a college or university.

Successful School-to-Work programs require the active involvement of educators, business, community, family and labor leaders. Employers, in partnership with labor, define the skill requirements for jobs, participate equally in the governance of programs, offer quality learning experiences for students at each worksite, and provide jobs for graduates upon successful completion.

# A Guide to Work-based Learning Programs: Part I - Occupational Learning

**Chapter 1**
**Introduction to the Guide**

## Overview

### Background

A higher percentage of students in the United States enter college than in other countries, and college is perceived as an option for almost all students. In most respects, this concentration on the ideal of a college education for all has been a positive force in the nation's success.

### American Demographics and Industry are Changing

In recent decades, however, as American demographics and industry have been rapidly changing, it is increasingly clear that the concentration on going to college has also created barriers in the path of those who choose to enter the workforce after high school.

About half of U.S. youth do not go to college, and they receive little assistance in making the transition from school to work. Generally, U.S. schools direct most of their resources toward preparing students for college. Yet, only about 20 percent of U.S. youth complete a 4-year degree. Many flounder in the labor market upon leaving school, jobless, or obtaining jobs with few opportunities for advancement. Beyond the problems these individual youths face, an inadequately skilled young work force undercuts the ability of the United States to compete in the international economy.

Many labor experts say that the United States does less than any other leading industrial country to help youths make the transition from school to the work place. This, they say, especially hurts those who do not go to college because they obtain little guidance in finding jobs and little training for specific occupations.

### Youth in Transition

The majority of high school students start their transition to work well before they graduate. More than 50 percent of all 11th graders and nearly two-thirds of all 12th graders have jobs while they are in school. Most of the jobs that students hold are obtained by the students themselves and are totally unrelated to school. From School To Work, published by the Educational Testing Service Policy Information Center, concludes "The school and work lives of

students are entirely separate, and although the school and employer interact with the same student, little advantage is taken of this connection."

Far too little is being done to prepare young people to succeed in increasingly high-skill, high performance jobs. The need to build effective links among high school, post secondary education, training, and the workplace has never been more urgent.

What is needed is to help all young people make a successful transition from school to a job with a real economic future and to additional education and training opportunities.

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## National Legislation

Recognizing the need for providing successful transition opportunities from school to work, the U.S. Congress passed and President Clinton signed into law the School-to-Work Opportunities Act of 1994.

The purpose of the School-to-Work Opportunities program is to 1) integrate work-based learning and school-based learning, academic and occupational learning and build effective linkages between secondary and post secondary education; 2) provide all students with opportunities to complete a career major; 3) incorporate the program components of school-based learning, work-based learning, and connecting activities; 4) provide students with strong experience in and understanding of all aspects of the industry they are preparing to enter; and 5) provide all students with equal access to the full range of program components (including both school-based and work-based learning components) and related activities, such as recruitment, enrollment, and placement activities.

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## Michigan Education Reform

On December 24, 1993, the Michigan legislature approved school reform amendments (P.A. 335 and 339) which provide a statutory framework for implementing the School-to-Work system in all Michigan Schools. Every school district must have a school improvement plan which:

- determines whether the existing school curriculum is providing pupils with the education and skills needed to fulfill adult roles;
- develops alternative measures of assessment that will provide authentic assessment of pupils' achievements, skills, and competencies;
- identifies the adult roles for which graduates need to be prepared;

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- identifies the changes which must be made in order to provide the graduate with the necessary education and skills;
- identifies ways to make available in as many fields, as practicable, opportunities for structured on-the-job training, such as apprenticeships and internships, combined with classroom instruction; and,
- uses technology as a way of improving learning and delivery of services and for the integration of evolving technology into the curriculum.

Every school, school improvement team, principal and teacher, and local school board in Michigan must address the components of School-to-Work in their school improvement plan. School improvement legislation along with historic school financing reform measures have created the opportunity to implement a quality School-to-Work system in Michigan to serve all students. This new system will require schools to interact with employers in new ways and demand profound changes in how educational services are delivered.

## Components of Successful Programs

Although no single School-to-Work strategy is appropriate for all local communities, experience demonstrates that certain core components are essential. These include:

Work-based Learning

Work-based learning includes both paid and unpaid work experience; a planned program of job training with progressively higher skills; workplace mentoring and instruction in general workplace skills, including how to acquire and use information, understand and master systems; and how to work with new technologies.

School-based Learning

School-based learning includes career exploration and counseling. Students should have the opportunity to select a career major, to the extent practical, not later than the beginning of the 11th grade. Of course, there should be sufficient flexibility to allow students to transfer among majors. Students should receive periodic evaluations to identify their academic strengths and weaknesses, and to identify the need for additional learning opportunities to help them to master core academic skills.

Connecting Activities

Effective linkage between school and work learning depends on communities building bridges between the two worlds. For example, students need to be appropriately matched with employers' work based learning opportunities and a liaison between the employer, school, parents, and students must keep things moving smoothly. Technical assistance should be provided to design work-based learning components and to train teachers, mentors, and counselors.

Information regarding post-program experiences of students who participate in the program should be collected and analyzed in order to improve the program for future students.

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## Purpose of the Guide

This guide is one in a series and provides information on the work-based learning component of the School-to-Work Opportunity Act which includes:

1) work experience;

2) a program of job training and work experiences, coordinated with learning in the school, that are relevant to a career major and lead to a skill certificate;

3) workplace mentoring;

4) instruction in general workplace competencies; and

5) broad instruction in all aspects of the industry.

Work-based learning occurs through school based enterprises and work site based learning activities conducted by area centers, high schools, and community colleges in Michigan.

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## Core Principles

Five core principles are essential for all school-to-work programs:

- Clear standards for credentials and procedures for certification must be identified;
- Experienced based teaching in classrooms should develop cognitive as well as practical skills;
- School-based programs and curriculum should build upon related work experiences;
- School-to-work linkages should reward school learning and effort with good jobs; and,

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- Work-site based learning methods must build upon school learning and be connected to the school's program and curriculum.

## Focus of this Guide: Occupational Learning

> Although effective school-to-work programs involve the above principles this guide is primarily focused on specific school-to-work transition programs which aim for the development of occupational learning.

### Intended Users

This guide has three audiences. The primary audience is state and local leaders (e.g.. education, community, business and labor) who are involved in the entire process of planning and implementing school-to-work transition programs. A secondary audience includes policy makers, teacher educators, counselors, researchers, and others who might be interested or indirectly involved with school-to-work transition. A third audience includes representatives of the many stakeholder groups involved in the planning and implementation process , including students, parents, and employers. It is the intent of this guide to bring a new level of understanding about school-to-work transition, and in particular the work-site based learning component, to each of these audiences.

For all three audiences, it is recognized that additional detail is needed to make this guide useful for day-to-day planning. However, it is believed that this activity must be accomplished at the local level in order to address the specific training and employment needs of local area partners.

## Organization of the Guide

This table shows how the guide is organized and describes briefly the contents of each chapter.

| Chapter | Title | Overview |
|---|---|---|
| Chapter 1 | Introduction to the Guide | Introduces the contents of the guide |
| Chapter 2 | A review of Work-based Learning | Describes the benefits of work-based learning |
| Chapter 3 | Contracted Instruction | Overviews this employer contracted learning program |
| Chapter 4 | Cooperative Education | Explores the essential elements of cooperative education plans |
| Chapter 5 | School to Apprentice Programs | Discusses the background and required components |
| Chapter 6 | Apprenticeship | Describes apprenticeship training |

## How to Use the Guide

This guide has been prepared using the Information Mapping ® style of writing. This approach is designed to present information in a concise, easy to read fashion. It supports a reader's ability to scan a document and quickly find information that is needed, especially with the assistance of the *Detailed Table of Contents* at the front.

The use of the modular units and blocks of text enable the reader to choose information that is needed without having to sort through pages of text. Research conducted on Information Mapping ® has shown that it cuts down on reading time by as much as forty percent. And, because it is easy to find information and move through the document in ways that make sense to individual readers, it is also easier to learn and relearn information.

The reader is encouraged to examine the *Detailed Table of Contents* carefully to gain an understanding of the information presented in the entire guide. Then, the reader may wish to read about a particular topic of interest or scan the entire document to get an overall sense of the information presented.

The goal has been to prepare a document that presents a vast amount of information about the planning and implementation regarding the work-based learning component of the School-to-Work Opportunities Act of 1994.

# Chapter 2
# A Review of Work-based Learning

## Overview

### Background

Work-site based learning or work-based education programs are forms of experiential education that make use of business and industry sites as part of a school's curriculum. The goal of work-based learning programs is to expand learning into the work environment. Work-based learning programs should be integrated with academic, career and technical education. For high school students continuing their education and training work-based learning programs should provide structured linkages between secondary and post secondary institutions.

### In This Chapter

This chapter explains work-based education programming. This chapter is intended to provide a general understanding regarding work-based learning programs, program design, and characteristics of effective programs. In addition, the benefits of work-based education for students, employers, and educational agencies are explained.

This chapter covers the following topics:


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## Work-based Learning

### Work-based Learning Programs

Work-based learning programs are planned job training experiences that utilize business and industrial sites for training as part of a regular school program. Work-based learning programs use experience in productive work settings to achieve desired educational outcomes and are organized so that learners acquire attitudes, skills, and knowledge for work, a career, and other life roles.

The major types of work-based learning programs for students used in Michigan high schools, area centers and community colleges with a focus on occupational learning include contracted instruction, cooperative education, school-to-apprenticeship, and apprenticeship.

The major types of work-based learning programs used in Michigan high schools, area centers and community colleges with a focus on career awareness and exploration include: career exploration programs, service learning, school-based enterprises, career internships and career academies.

## Participant Outcomes

The objective of work-based learning programs is to expand educational opportunities beyond the school into the work environment. Work-based education programs involve students as observers or trainees and can be for time periods ranging from single class periods to half day sessions, to several days, one to three weeks, a semester, or an entire academic school year. Paid work-based learning programs usually are at least one semester in length. Unpaid work-based learning programs involve students as observers or trainees in situations ranging from single class periods to as long as three weeks in length.

Work-based education programs are designed to provide a smooth transition for students from a school environment to the work environment. Standards for effective work-based programs are jointly established by educational agencies, business, labor and industry. In effective work based education programs significant structured training occurs at the work-site.

## Required Design Criteria of Work-based Programs

Effective work based learning programs have the following required program components:

- a planned program of job training and experiences;
- paid work experience;
- workplace mentoring;
- instruction in general workplace competencies, and,

- broad instruction in all aspects of the industry.

Work-based learning programs should not be separate from existing school offerings. Work-based learning programs regardless of type and length of experience should be part of an integral, natural, and continuous career development process for students.

Effective work-based learning programs ensure 1) that students are exposed to careers; 2) integrated with existing school programs; and 3) use relevant and training experiences provided by business and industry.

Work-based learning programs can be highly effective at both the secondary and post-secondary levels. While the specific objectives may vary among the variety of worksite-based learning programs, all worksite-based programs are designed to benefit students, employers, and school officials.

## Benefits of Work-based Learning

### Benefits for Students

The benefits for students from participation in work-based learning programs include, but are not limited to, the following:

- provides realistic learning experiences that help to develop interests, abilities, and the acquisition of employability skills;
- provides a smoother transition from school to work through the development of career and employability skills;
- develops student maturity by strengthening resourcefulness, problem solving skills, self-confidence, self-discipline, and responsibility;
- develops human relations skills through personal interaction with employers, customers, and clients;
- combines work exploration or experience with classroom/laboratory theory and training;
- provides financial benefits, excluding those learning programs that are unpaid and focus on career awareness and exploration;
- provides academic credit towards a high school diploma or one or two year post-secondary certificate or associate degree; and,

- provides educational guidance, counseling, and supervision to match career interests; and enhances employment opportunities after program completion.

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**Benefits for Employers**

The benefits to employers participating in work-based learning programs include, but are not limited, to the following:

- assists in the recruitment of present and future employees;
- reduces the training period and requirements for those students who continue their employment with the same employer;
- enhances employee productivity;
- creates a partnership between business and education; and,
- provides an opportunity for community and social involvement.

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**Benefits for Educational Agencies**

The benefits to educational agencies participating in work-based learning programs include, but are not limited, to the following:

- extends classroom/laboratory experiences to the world of work for participating students;
- involves employers in determining a student's training plan and program, helping to assure realistic academic and occupational experiences;
- provides school personnel with access to current business and technological developments, helping to assure professionally up-to-date and relevant instruction; and,
- provides students with the latest equipment and up-to-date training facilities.

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## Keys to Successful Programs

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Traits of successful work-based learning programs include the following:

1) students who participate in work-based learning programs have had previous experiences and assistance with career awareness, exploration, career planning and decision making, and placement activities in their academic and career/technical education programs.

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2) students have been properly selected and placed in a work-based learning program that meets their career needs, assuring a reasonable chance for success.

3) the work-based learning programs which are offered by the school have the cooperation and active participation from the community and provide quality real-life experiences.

4) the work-based learning program is integrated with academic, career and technical instruction to allow students to progress in a career and/or continue additional education or training.

## Credentials

The following credentials for students are possible for the successful completion of a work-based learning program:

- completion of an "endorsed" high school diploma with high academic and occupational skill standards;
- attainment of a skills certificate recognized by industry;
- attainment of a Certificate or Associate's Degree; or
- a first job on a career pathway, which may lead to post-secondary education (college or university) or further training, such as a registered apprenticeship program.

## Resources

### Agencies and Associations

Michigan Occupational Education Association, 416 W. Ionia, Lansing, MI, 48933.

Michigan Center for Career and Technical Education, Michigan State University, College of Education, 230 Erickson Hall, East Lansing, MI, 48824-1034.

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# Chapter 3
# Contracted Instruction

## Overview

### Background

Contracted instruction occurs when a school develops a formal contract with an employer, or employer groups, provide structured on-the-job training. The training is closely linked to the instruction provided by a school partner. The employer commitment to training is less in duration than typically found in an apprenticeship program. In addition, the employer does not commit to hiring after training is completed, but it is a frequent occurrence.

### In this Chapter

This chapter explains contracted instruction programming. This chapter is intended to provide a general understanding of contracted instruction and characteristics of effective programs. In addition, the benefits of contracted instruction for students, employers, and educational agencies are explained.

This chapter covers the following topics:


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## Contracted Instruction Programs

Contracted instruction is a form of work-based learning. It occurs when a firm negotiates a contract with a school for student training. Career and technical education instruction and support services is provided by business, industry, and private educational agencies through formal written agreements with public education agencies. Contracted instruction may also take place among and between public education agencies at both the secondary and post-secondary levels.

Contracted instruction provides an alternative method of providing occupational learning which would not be available or feasible in a given education agency or which can more appropriately be offered in a contracted setting. Instruction and services provided under contract may be designed to serve an entire class of students (class size contracts) or on an individual basis (less-than-class-size). Options may include providing all the instruction or only selected components to supplement what is offered by the contracting education agency.

## Participant Outcomes

The objective of contracted instruction is to expand educational opportunities beyond the normal school setting into the actual work environment. New and emerging occupations may more readily lend themselves to contracted instruction. Less-than-class-size contracts are an effective way to expand educational options for students when class-size programs are not feasible due to low student interest to justify a full class program in a public educational agency.

## Required Design Criteria of Contracted Instruction Programs

To assure that students continue their status as trainees and students when participating in a contracted program, the following criteria from the Fair Labor Standards Act must be applied to the design of the program:

a) The training, even though it includes actual operation of the facilities in the business/industry agency or private school, is similar to that which would be given in an educational agency;

b) The training is for the benefit of the trainees or students;

c) The trainees or students do not displace regular employees, but work under their close observation;

d) The business or industrial firm that provides the training derives no immediate advantage from the activities for the trainees or students, and on occasion, operations may actually be impeded;

e) The trainees or students are not necessarily entitled to a job at the conclusion of the training period; and,

f) The agency and the trainees or students understand that the trainees or students are not entitled to wages for the time spent in training.

## Benefits of Contracted Instruction

### Benefits for Students

The following benefits for contracted instruction have been identified in the literature and by reviewing authorities:

- training in new, unique and emerging occupations can be offered to students; and,
- students are trained in the latest technologies, equipment and processes using actual work environments.

## Keys to Successful Programs

Successful contract instruction programs have the following elements:

- a written contract between the school and the contractor which specifies beginning and ending dates of the contract, total cost of contract/student, total hours and weeks of instruction;
- the program name, goals, tasks and curriculum design are predetermined and well organized;
- provisions are in place for reviewing the administration and operation of the contractor;
- instructional personnel of the contractor hold appropriate teaching certification, special authorization, including state and federal licenses;
- provisions are in place for periodic student assessment of progress;
- when licensing is required for an occupation, provisions assuring that the student will receive training which will allow him/her to meet minimum requirements for obtaining a license and have a reasonable expectation of successfully passing the examination are required; and,
- compliance with all local, state and federal laws can be demonstrated;

## Credentials

Upon successful completion of a contracted instruction program the participants are provided with a:

- Certificate of Achievement and/or license recognizing the achievement of competence in an approved training program

## Resources

### Agencies and Associations

Michigan Department of Education, Office of Career and Technical Education, P.O. Box 30009, Lansing, MI, 48909, (517) 373-3365.

### Materials

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# Chapter 4
# Cooperative Education Plans

## Overview

### Background

Cooperative education plans are the most commonly available option for work-based learning in Michigan. Annually over 24,000 secondary students and approximately 3,000 post-secondary students participate in the cooperative education plans.

Cooperative education plans are operated by individual schools, area centers and post-secondary institutions. At the secondary level employers provide part-time jobs during the school year, most often to eleventh and twelfth graders, in the field of the student's concentration. At the post-secondary level periods of study in school alternate on a full year, semester, or parallel basis while the student is enrolled in a course of study at the institution.

Connecting activities are performed by the classroom instructor who serves as a teacher-coordinator or a school or institutional representative known as a coordinator. The teacher-coordinator or the co-op coordinator periodically visits the student at the worksite. The worksite supervisor evaluates job performance.

A training agreement and a training plan is developed that clearly specifies what the student is expected to learn on the job. Cooperative education plans link work experience in a closely related field with a student's academic or occupational program.

### In this Chapter

This chapter explains cooperative education plans and key features. It is not the intention to provide an extensive historical review of cooperative education, but rather to provide a general understanding of cooperative education in relationship to school-to-work systems.

This chapter covers the following topics:


| Topic | See Page |
|---|---|
| Cooperative Education | 4-2 |
| Participant Outcomes | 4-2 |
| Required Design Criteria of Cooperative Education Plans | 4-2 |
| Benefits of Cooperative Education | 4-3 |
| Keys to Successful Programs | 4-4 |
| Credentials | 4-5 |
| Resources | 4-5 |

## Cooperative Education Plans

Cooperative education is an organizational plan and instructional delivery system that combines work-related learning experiences available in the community with occupationally oriented instruction provided in an educational institution. It is an educational approach that provides alternating or parallel periods of classroom study and supervised public or private employment.

## Participant Outcomes

Cooperative education plans are designed to provide students with the following:

- an opportunity to learn career and technical skills at industry standards by linking the school's academic and occupational/ course of study with supervised on-the-job training;
- an opportunity to acquire positive work attitudes and interpersonal skills; and,
- an opportunity for paid employment in a school sponsored and employer supervised setting.

## Required Design Criteria of Cooperative Education Plans

The essential criteria for cooperative education plans include:

(1) a written training agreement between a school, area center, or an institution of higher education, a student, a parent or guardian, (in the case of secondary participants) and an employer is developed;

(2) instruction (occupational and academic) related to the job and the student's academic study or career goals is provided;

(3) alternate or parallel periods of instruction in school with supervised public or private employment, which is planned and supervised to further the student's education and employability; and,

(4) employment and compensation is in compliance with federal, state, and local laws, rules, and regulations

## Benefits of Cooperative Education

### Benefits to Students

Several benefits for cooperative education programs have been identified through literature, research, and by reviewing authorities. Some of the ways students benefit are as follows:

- academic credit toward a high school diploma or completion of a post-secondary degree;
- clarification of career goals;
- increased contextual learning and motivation for study;
- improved self-reliance, self-confidence and responsibility;
- practice with human relations skills;
- financial assistance for education purposes;
- contacts with potential employers;
- feedback through performance assessment;
- employability skills and marketable job skills;
- exposure to practicing role models; and,
- higher starting salaries after graduation.

### Benefits to Employers

Employers also gain from participation in cooperative education plans. Employer benefits are as follows:

- effective screening, selection, and recruitment;
- higher employee retention and productivity;
- highly motivated employees with realistic expectations;
- lower recruitment and training costs;
- better access to women and minorities; and,

- opportunities to influence curriculum design and content, and improved public relations.

### Benefits to Schools

Although students and employers benefit substantially from cooperative education plans, educational institutions also receive economic and academic benefits. These benefits include:

- improved relationships with the business community;
- opportunity for technical updating of instructional staff;
- improved student retention and enhanced placement rates;
- workplace tested curriculum;
- student use of high tech equipment with less need to invest in state of the art in-school equipment; and,
- extension of financial aid resources.

## Keys to Successful Programs

High quality cooperative education plans share several features that enhance effectiveness, including:

- adherence to training agreements outlining the responsibilities of the students, schools, and employers;
- agreement to training plans by employers, students, and schools detailing both general employability and specific occupational skills that the students are expected to acquire;
- close supervision of students by school staff and worksites which are regularly monitored;
- development of work sites which provide good work experience with occasions to practice acquired skills and learn new skills, good supervision, useful performance evaluation, opportunities to work with adults, adult responsibilities, and the basis for acquiring good work behavior;
- development of work stations for targeted groups such as: disadvantaged, handicapped, teenage mothers, minorities, and youth known to the criminal justice system;

- screening of applicants to assure that they are prepared to meet employers needs and demands; and,
- selection of employers who provide training in occupations with career paths.

## Credentials

Upon completion of a secondary cooperative education plan the student is expected to receive credit toward a high school diploma. Usually a *Certificate of Achievement* is also given to the student. In some cases where the local educational agency has developed a school-to-apprenticeship program the work hours and academic preparation received by the student counts toward a *Journey Card* for a recognized apprenticeship trade or occupation.

At the post-secondary level completion of a cooperative education plan is a required or elective component to receiving an Associate or Baccalaureate degree from the institution.

## Resources


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# Chapter 5
# School-to-Apprenticeships

## Overview

### Background

Prior to 1977, apprenticeship training programs were generally considered to be post-secondary programs. Apprentices were workers at least 16 years of age who entered into a voluntary written agreement with an apprenticeship program sponsor to participate in apprenticeship training. Such individuals had graduated from high school, or, in some cases, left school before graduation. Secondary students were not enrolled in apprenticeship programs. Credit towards apprenticeship for completion of a secondary work-site learning programs was not provided, if a graduate subsequently applied for an apprenticeship program. Program sponsors for apprenticeship gradually began to recognize and give credit for previous education, training, and work experience.

Beginning in 1977, a number of apprenticeship/school linkage demonstration projects were funded by the U.S. Department of Labor (USDOL) Bureau of Apprenticeship and Training (BAT) to test the concept of such linkages. High school seniors were allowed to become registered apprentices by the sponsoring employers. Upon completion of high school, the students continued the program as full-time apprentices.

Federal emphasis on the establishment of greater coordination between career and technical education programs and apprenticeship training programs has increased significantly during the past few years. The Carl D. Perkins Vocational Education Act of 1984 mandated the establishment of an Interagency Agreement between the U.S. Department of Education and the U.S. Department of Labor to promote apprenticeship programs. The Agreement which has been executed is designed to:

1) improve cooperative and collaborative linkages among career and technical education, apprenticeship program administrators, and the business/industry/labor community from the private sector.

2) implement a plan to promote the expansion and improvement of apprenticeship training programs in the private sector and the role of career, technical and academic education in related instruction.

## In this Chapter

The principal feature which distinguishes school-to-apprenticeship programs from other work-based learning programs is the inclusion of an in-school apprenticeship. High school students are placed in apprenticeable occupations with local employers, become indentured, and registered as apprentices while completing their high school education. This chapter explains school-to-apprenticeships by providing a definition for the program, identifying participant outcomes, explaining program design components, and detailing the benefits of the program and the credentials obtained by the participant upon successful completion.

This chapter covers the following topics:


| Topic | See Page |
|---|---|
| School-to-Apprenticeship Programs | 5-2 |
| Participant Outcomes | 5-2 |
| Required Design Criteria of School-to-Apprenticeship Programs | 5-3 |
| Benefits of School-to-Work Apprenticeship Programs | 5-3 |
| Keys to Successful Programs | 5-4 |
| Credentials | 5-4 |
| Resources | 5-5 |


## School-to-Apprenticeship Programs

School-to-apprenticeship Programs are work-based learning programs in which an employer, employer association, or the employer and the union, establish a program which allows high school students to participate in a registered apprenticeship while completing their requirements for high school graduation. This arrangement is also known as **pre-apprenticeship** and **youth apprenticeship**.

## Participant Outcomes

School-to Apprenticeship programs are designed for participants to:

- gain admission to registered apprenticeship programs;
- provide paid employment with progressive pay increases; and,

- provide specialized occupational training according to industry skill standards.

## Required Design Criteria for School-to-Apprenticeship Programs

School-to-Apprenticeship programs have the following design criteria:

(1) Students begin at age 16, with wages at a graduated scale, leading to journey person status.

(2) Students are employed part-time with structured on-the-job training combined with classroom work. Continued employment with the firm is typical, but not guaranteed.

(3) A formal agreement is made between the business or industry, the educational agency, and the U.S. Bureau of Apprenticeship and Training.

(4) Students in their junior year in high school work part-time, receive on-the-job training and related instruction, and enter full-time apprenticeship upon graduation.

(5) Hours worked while in high school count toward the time required to complete the apprenticeship. Apprenticeship generally lasts 2 to 4 years after high school graduation.

## Benefits of School-to-Apprenticeship Programs

### Benefits to Students

The following student benefits for school-to-apprenticeship programs have been identified in the literature and by reviewing authorities:

- job continuity for high school students following graduation from high school;
- official recognition through registering apprenticeship agencies that training meets accepted standards;
- opportunity for students to earn income while learning a trade and completing their high school education;
- hours worked credited toward a full apprenticeship;

- credit hours toward a degree program;
- provision of a career pathway for youth after high school graduation with continued opportunities for skill development and wage advancement; and,
- contextual or real world learning experiences within the traditional school structure because apprentices are provided with on-the-job training.

### Benefits to Employers

The following benefits to employers for school-to-apprenticeship programs have been identified in the literature and by reviewing authorities:

- an opportunity for employers to train entry workers to meet their specific labor needs;
- an opportunity for employers to hire employees who have been screened for interest and ability in skilled trades and who have received some training in these trades;
- recognition for school-to-apprenticeship training program participation;
- federal certification as an employment training site; and
- an opportunity for employers to establish linkage with schools to assist with training of skilled workers to meet employers' needs.

## Keys to Successful Programs

Successful school-to-apprenticeship programs have the following elements:

- requires that participants complete high school;
- provides students with on-the-job training with up-to-date equipment;
- provides school credit towards high school graduation for the on-the-job training component;
- involves employers in the planning of programs and the development of related instruction to meet the training needs of both employers and apprentices; and,

- assists in addressing labor shortages in certain skill areas.

## Credentials

Upon successful completion of a school-to apprenticeship program the participants are provided with a(n)

- high school diploma with specific occupational training; and,
- opportunity to begin apprenticeship training while completing the required coursework for high school graduation. When the apprenticeship is completed, the student receives a certificate that confers a *Journey Card*, which is recognized throughout the industry.

## Resources

### Agencies and Associations

Michigan Department of Education, Office of Career and Technical Education, P.O. Box 30009, Lansing, MI, 48909, (517) 373-3365.

U.S. Department of Labor, Bureau of Apprenticeship and Training, Region V, Room 758, 230 South Dearborn Street, Chicago, IL 60604.

U.S. Department of Labor, Bureau of Apprenticeship and Training, Room 304, 801 South Waverly, Lansing, MI 48917, (517) 377-1746.

### Materials

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# Chapter 6
# Apprenticeship (registered)

## Overview

### Background

Apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or the state apprenticeship agency in accordance with the Fitzgerald Act of 1937, commonly known as the National Apprenticeship Law. There are over 830 apprenticeable occupations -- most of them in the construction, manufacturing, transportation, and service industries, covered in registered programs.

The Bureau of Apprenticeship and Training (BAT) does not operate training programs. Although the Bureau of Apprenticeship and Training works with employers, schools and labor groups, the BAT does not provide instruction for various training programs. Its role is advisory and promotional in nature.

Joint apprenticeship committees composed of representatives of management and labor, work together to develop and administer local apprenticeship training programs. With guidance from the Bureau of Apprenticeship and Training, national joint apprenticeship committees formulate policies for the qualification, recruitment, selection, and employment of apprentices in the various trade areas and issue basic training standards to be used by affiliated organizations.

### In this Chapter

This chapter explains apprenticeship programming. It is not the intention to provide an extensive historical review of apprenticeship, but rather to provide a general understanding of apprenticeship in relationship to school-to-work transition.

This chapter covers the following topics:


| Topic | See Page |
|---|---|
| Apprenticeship Programs | 6-2 |
| Participant Outcomes | 6-2 |
| Required Design Criteria of Apprenticeship Programs | 6-2 |
| Benefits of Apprenticeship Programs | 6-3 |
| Keys to Success Programs | 6-4 |
| Credentials | 6-5 |
| Resources | 6-5 |

## Apprenticeship Programs

Apprenticeship programs provide training in occupations that require a wide and diverse range of skills and knowledge, in combination with worker maturity and independence of judgement. It involves planned, day-to-day training at the workplace with experience gained under competent supervision, combined with related technical instruction.

Apprenticeship is a business-like system designed to provide workers entering an industry with comprehensive training by exposing them to both the practical and theoretical aspects of work involving all aspects of the industry. Training is provided by combining structured training at the worksite with related theoretical instruction.

## Participant Outcomes

Registered apprenticeship programs and occupations are designed to provide students with training that:

- is learned in a practical way through a structured program of supervised on-the-job training;
- is identified and commonly recognized throughout an industry;
- involves manual, mechanical, or technical skills and knowledge that requires a minimum of 2,000 hours of on-the-job experience; and,
- requires related instruction to supplement the on-the-job training through classroom, correspondence courses, self-study, or other means of instruction.

## Required Design Criteria for Apprenticeship Programs

Apprenticeship programs registered by the Bureau of Apprenticeship and Training must provide that:

(1) the starting age of an apprentice is not less than 16;

(2) there is a full and fair opportunity to apply for apprenticeship;

(3) there is a schedule of work processes in which an apprentice is to receive training and experience on the job;

(4) the program includes organized instruction designed to provide apprentices with the knowledge in technical subjects related to their trade (a minimum of 144 hours per year is normally considered necessary);

(5) there is a progressively increasing schedule of wages;

(6) proper supervision for on-the-job training with adequate facilities to train apprentice is insured;

(7) the apprentice's progress, both in job performance and related instruction, is evaluated periodically and appropriate records are maintained;

(8) there is employee-employer cooperation;

(9) successful completions are recognized; and,

(10) there is no discrimination in any phase of selection, employment, or training.

## Benefits of Apprenticeship Programs

### Benefits for Apprentices

Benefits for apprentices have been identified through studies and by reviewing authorities. Apprenticeship:

- is an efficient way to learn skills, because the training is planned and organized;
- provides apprentices earning power as they learn, since they are already paid workers;
- helps to assure a good standard of living for apprentices, because the training is in high demand areas;
- increases opportunities for employment and advancement to supervisory and management positions; and,
- can obtain college credit toward a degree program.

## Benefits for Employers

There are several employer and participant benefits for well-planned and administered apprentice programs. For employers, apprenticeship programs:

- attract adequate numbers of highly qualified applicants;
- reduce absenteeism;
- reduce turnover;
- increase productivity;
- facilitate compliance with Federal and State Equal Employment Opportunity requirements;
- improve community relations;
- improve employee relations;
- ensure availability or related technical instruction;
- enhance problem-solving ability of craftworkers; and,
- ensure versatility of craftworkers.

## Keys to Successful Programs

The keys to successful apprenticeship programs are as follows:

- sponsorship by employers or others that have the ability to hire and train in a work environment;
- curriculum content and duration of training is determined by business and industry needs;
- compliance with state and federal laws, rules, and regulations;
- completion of the training program leads to formal, official credentials (*Certificate of Completion of Apprenticeship and official journey worker status*);
- involvement of time and money from an employer or other sponsor;

- provision for wages to apprentices during the training according to a pre-defined wage progression scale;
- supervision of apprentices by masters in the craft, trade, or occupation;
- written agreements that detail the roles and responsibilities of the sponsor and the apprentice. Implicit expectations include the right of the sponsor to employ the apprentice and the right of the apprentice to expect employment during the training period; and,
- documentation of achievement of industry-defined skills at industry-accepted standards

## Credentials

Upon completion of an apprenticeship training program the apprentice receives a *Certificate of Completion of Apprenticeship* issued by the State apprenticeship agency. In those States not having such an agency, the certificate will be issued by the U.S. Department of Labor, Bureau of Apprenticeship and Training, in accordance with its recommended standards.

## Resources

### Agencies and Associations

Michigan Department of Education, Office of Career and Technical Education, P.O. Box 30009, Lansing, MI, 48909, (517) 373-3365.

U.S. Department of Labor, Bureau of Apprenticeship and Training, Region V, Room 758, 230 South Dearborn Street, Chicago, IL, 60604.

U. S. Department of Labor, Bureau of Apprenticeship and Training, Room 304, 801 South Waverly, Lansing, MI, 48917, (517) 377-1746.

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# Glossary

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| **all aspects of an industry** | all aspects of the industry or industry sector a student is preparing to enter, including planning, management, finances, technical and production skills, underlying principles of technology, labor and community issues, health and safety issues, and environmental issues, related to the industry or industry sector. |
| **all students** | includes students from the broad range of backgrounds and circumstances, including disadvantaged students, students of diverse racial, ethnic, and cultural backgrounds, students with disabilities, students with limited English proficiency, students who have dropped out of school, and academically talented students. |
| **apprenticeship** | a relationship between an employer and an employee during which the worker or apprentice, learns a trade. The training lasts a specific length of time. An apprenticeship covers all aspects of the trade and includes both on-the-job training and related instruction.<br><br>Also known as **registered apprenticeship program.** |
| **approved state plan** | a School-to-Work Opportunities plan that is submitted by a State, is determined by the Secretaries of Education and Labor to include the basic program components and otherwise meets the requirements of the Act, and is consistent with the State's plan under the Goals 2000: Educate America Act. |
| **career academies** | a single employer or a consortium of employers in an industry (or across industries regarding a specific occupation) which design a school or school program around a single theme such as the arts, science and technology, electronics, languages, environmental science etc. as a source of potential entry workers. Assistance generally provided to the school include curriculum development, equipment donations and/or purchases, consultant services, instructional materials, part-time or summer employment opportunities.<br><br>Also known as **magnet schools.** |

**career exploration**

typically non-paid learning activities designed to introduce and create awareness of job and career opportunities through the use of career fairs, clinicals, externships, field trips, guest speakers, internships, job shadowing, mentoring, practicums, and unpaid experience.

Also known as **career exposure,** and **directed occupational experience**.

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**career guidance and counseling**

a program -

A) that pertain to the body of subject matter and related techniques and methods organized for the development in individuals of career awareness, career planning, career decision-making, placement skills and knowledge and understanding of local, State, and national occupational, educational, and labor market needs, trends, and opportunities;

B) that assist individuals in making and implementing informed educational and occupational choices; and,

C) that aid students to develop career options with attention to surmounting gender, race, ethnic, disability, language, or socioeconomic impediments to career options and encouraging careers in nontraditional employment.

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**career exposure**

the active involvement of the community, business, industry, and labor to introduce and create awareness of job and career opportunities through career fairs, guest speakers, mentors, sponsorships, and field trips to increase student knowledge of careers and the need for career planning.

Also known as **career exploration**.

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**career major**

a coherent sequence of courses or field of study that prepares a student for a first job and that -

A) integrates academic and occupational learning, integrates school-based and work-based learning, establishes linkages between secondary and postsecondary educational institutions;

B) prepares the student for employment in a broad occupational cluster or industry sector;

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C) typically includes at least 2 years of secondary education and at least 1 or 2 years of postsecondary education;

D) provides the students, to the extent practicable, with strong experience in and understanding of all aspects of the industry the students are planning to enter;

E) results in the award of a:

i) high school diploma or its equivalent, such as:

I) a general equivalency diploma; or
II) an alternative diploma or certificate for students with disabilities for whom such alternative diploma or certificate is appropriate;

ii) a certificate or diploma recognizing successful completion of 1 or 2 years of postsecondary education (if appropriate);

iii) a skill certificate; and,

F) may lead to further education and training, such as entry into registered apprenticeship program, or may lead to admission to a 2 or 4 year college or university.

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**career pathways** — term used for all the possible options including K-12 education, work experience, military, apprenticeship, advanced training and/or post secondary education that an individual can use and/or experience to secure a rewarding and successful career.

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**certificates of mastery** — See **skill certificate**.

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**clinicals** — See **internship**

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**community services** — voluntary service projects undertaken by groups of students and individual volunteers which give students worker roles at a degree of complexity and level of responsibility that they could not ordinarily find in paid employment. As volunteers, students are not limited to the restrictions imposed by child labor law provisions.

See also **service learning**.

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**connecting activities** — the coordinated involvement of employers, schools and students with such activities as, matching students with work-based learning

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| | opportunities; providing for the inservice of counselors, teachers, and mentors; helping with the placement of students in jobs; further education and/or training; and follow-up on students' progress after graduation.<br><br>See also **coordination activities.** |
| **contracted instruction** | career and technical education instruction and support services provided by business, industry, and private educational agencies through formal written agreements with public education agencies. This arrangement can be a class size or less than class size program. |
| **cooperative education** | a method of instruction that combines work-related learning experiences available in the community with instruction provided in an educational institution. |
| **cooperative education plans** | school-sponsored plans that help students gain competitive occupational skills at industry standards by linking the school's occupational program/course of study with carefully supervised on-the-job training and performance. |
| **coordination activities** | the process of integrating the administrative, organizational, and instructional activities of work-based learning programs.<br><br>See also **connecting activities** |
| **coordinator** | an educator who coordinates school and occupational experiences for students. Sometimes referred to as a(n) co-op coordinator, instructor-coordinator, counselor-coordinator, school-to-work coordinator, school site mentor, or teacher-coordinator. |
| **diversified cooperative education** | a program to provide vocational education in schools where the required training facilities are lacking. On-the-job training is combined with classroom instruction through an agreement among the school, an employer, and a student. A diversified occupations coordinator places students in several occupational areas and works cooperatively with instructors who provide related vocational instruction.<br><br>Also known as **diversified occupations**. |
| **employer** | general term for any individual, corporation, or other operating group which hires workers and includes both public and private employers. |

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| **employer certified program** | employer or employer groups which provide structured on-the-job training and paid employment. The training is closely linked to the instruction provided by a school partner. The employer commitment is normally less than a three year apprenticeship program. Employers do not agree to hire enrollees after program completion, but it is a frequent occurrence. |
| **experiential education** | refers to the many practices of utilizing out-of-classroom, off-campus resources as a learning laboratory. |
| **externship** | a program to give an advanced student paid work experience and training in the workplace.<br><br>See also **field study** and **internship.** |
| **field trips** | short, school-supervised visits to a work-site, which are designed to supplement in-school instruction with relevant, real world situations. |
| **field study** | term primary used at the post-secondary level for academically credited field experiences designed to meet specific academic objectives. Field study can be general and interdisciplinary in nature or oriented toward specific pre-professional training.<br><br>See also **externship**, **internship**, and **practicums** |
| **internship** | a period of time spent in the business, industry, or other agency for the purpose of providing a student with opportunities to gain insight and direct experience related to one of more functions of the organization. Internship gives a student paid or unpaid work experience in a career field of study. Unpaid internships usually give school credit.<br><br>Also known as **clinicals**, **externships**, **field study,** and **practicums** |
| **job shadowing** | an experiential learning activity which is normally designed to be a short-term, non-intrusive direct observation of individuals who are directly involved in the work place. |
| **job supervisor** | See **training sponsor** and **worksite mentor** |

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| **local partnership** | a local entity that is responsible for local School-to-Work Opportunities programs and that-<br><br>A) consists of employers, representatives of local educational agencies and local postsecondary educational institutions (including representatives of area vocational education schools, where applicable), local educators (such as teachers, counselors, or administrators, representatives of labor organizations or non-managerial employee representatives, and students, and<br><br>B) may include other entities as identified in the Act. |
| **magnet schools** | See **career academies** |
| **mentor** | a person of age or experience seniority who undertakes to guide the career development of a younger person or person of lesser experience. |
| **mentorship** | a term used for students who spend time with a skilled worker in their area of interest who provides information and guides work experience and skill development. |
| **on-site school-based enterprise** | a firm which locates a branch of its business on school grounds and allows students to do the work of the enterprise (i.e. credit unions, restaurants). |
| **on-site training** | a firm locates a training center on the school grounds and selects some of the students to work in an off-campus location (i.e. Best Western Hotels). |
| **on-the-job training** | the instruction in the performance of sequentially planned tasks given a student by an employer during usual working hours. Learning experiences involve both the theoretical application and the skill aspects of the learning situation. |
| **practicum** | See **internship** |

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| **pre-apprenticeship** | educational programs or courses that prepare potential workers (youth and adults) for entry into a Registered Apprenticeship Program.<br><br>Also known as **school-to-apprenticeship** and **youth apprenticeship.** |
| **registered apprenticeship agency** | either the Bureau of Apprenticeship and Training in the U.S. Department of Labor or a State apprenticeship agency recognized and approved by the Bureau of Apprenticeship and Training as the appropriate body for State registration or approval of local apprenticeship programs and agreements for Federal purposes. |
| **registered apprenticeship program** | a program registered by a registered apprenticeship agency. |
| **related instruction** | instruction specifically designed to improve personal and social skills, provide needed basic education and develop relevant occupational skills and knowledge. Instruction should be regularly scheduled, complement occupational learning experiences, and be planned and developed to meet the specific needs of each student. Instruction should include occupational information and related work-adjustment skills. |
| **school-based enterprise** | an activity sponsored or conducted by a school, that engages groups of students in producing goods or services for sale or use to people other than the students involved. |
| **school-based learning** | career exploration and counseling, choice of a career major or cluster, and a planned program of study that is based on high academic and skill standards, which may include postsecondary as well as secondary school preparation. |
| **school site mentor** | a professional who is designated as the advocate for a particular student, and who works in consultation with classroom teachers, counselors, and the employer to design and monitor the progress of the student's school-to-work program.<br><br>Also known as **coordinator, co-op coordinator, school-to-work coordinator, teacher-coordinator** |

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| **school-to-apprenticeship** | an employer, employer association, or the employer and the union, establish a program that allows high school students to participate in a registered apprenticeship program while completing their requirements for graduation.<br><br>Also known as **pre-apprenticeship** and **youth apprenticeship.** |
| **school dropout** | a youth who is no longer attending any school and who has not received a secondary school diploma or a certificate from a program of equivalency for such a diploma. |
| **school-to-work transition** | the process by which a student who has demonstrated mastery of basic academic skills, acquires practical and technical knowledge to progress into a productive and satisfying job or career in the labor force. |
| **Secretaries** | means the U.S. Secretaries of Education and Labor. |
| **service learning** | programs which emphasize the contribution of useful services to an organization or community by students and the learning which occurs as a result of the experience is usually credited. Service learning involves the integration of service opportunities with academic learning by incorporating lessons from work into the classroom curriculum, i.e. cleaning up a local stream while studying ecology and pollution. Service learning can provide exposure to private and public sector career opportunities, real world experiences, and allow students to be actively involved prior to reaching "employment age." |
| **service opportunity** | a program or project that enables participants to perform meaningful and constructive service in agencies, institutions, and situations where the application of human talent and dedication may help to meet human, educational, linguistic, public safety, and environmental community needs. |
| **skill standards** | statements which identify the knowledge, skill, and level of ability an individual needs to perform successfully in the work place. Standards can be tailored to any occupational cluster or industry to reflect its particular needs and environment. |

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| **skill certificate** | a portable, industry-recognized credential issued by a School-to-Work Opportunities program under a statewide School-to-Work Opportunities plan submitted by a state and approved by the Secretaries of Education and Labor certifying that a student has mastered skills that are benchmarked to high-quality standards.<br><br>Also known as **certificates of mastery**. |
| **student learner** | a person enrolled in a cooperative vocational education program who alternates instruction in school with a job in any occupational area. |
| **teacher coordinator** | an educator who teaches technical and related subject matter to students preparing for employment and coordinates classroom instruction (related instruction) with learning activities at the training station. The teacher-coordinator is responsible for the evaluation procedures used in he program.<br><br>See also **coordinator, co-op coordinator, school site mentor,** or **school-to-work coordinator.** |
| **training agreement** | a written agreement that outlines the specific responsibilities of the student-learner, the employer, the parent or guardian, the teacher-coordinator and the school district to a work-site based education program. |
| **training plan** | an educational plan often used in conjunction with a training agreement. Specific job tasks to be learned on the job and in the educational institution are included, along with an organized plan for the orderly acquisition and progression of job, duties, and tasks. |
| **training sponsor** | an individual directly responsible for supervising students' on-the-job learning experiences.<br><br>Also known as **job supervisor,** and **work site mentor**. |
| **training station** | an organization providing on-the-job training experiences for students enrolled in a cooperative education program.<br><br>Also known as **employer** and **work site**. |

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| **work experience** | a generic term that is used as an umbrella for any type of work experience (paid or non-paid, for credit or non-credit). |
| **work-based education** | a planned program of job training and experience that make use of business and industry sites as part of the school's curriculum.<br><br>Also known as **work-site based learning** and **work-site learning**. |
| **work-based learning** | See **work-based education**. |
| **work-site learning** | See **work-based education**. |
| **workplace mentor** | means an employee at the workplace who possesses the skills and knowledge to be mastered by a student, and who instructs the students, critiques the student's performance, challenges the student to perform well, and works in conjunction with classroom teachers and the employer.<br><br>Also known as **job supervisor**, **training sponsor** or **worksite mentor.** |
| **work-study** | College Work-Study program which provides work experience provided to postsecondary students with financial need while attending an educational institution. Under this federally funded program, students can receive work assignments on or off campus. On-campus assignments are 100 percent reimbursed by the federal government. If off-campus, the government contributes 80 percent of the student's wages and the host organization 20 percent. Students can work part-time during the school year and full-time during the summer. In Michigan the term is also used for special education students who are participating in a supervised special education school to work transition program coordinated by a school official known as a special education work-study coordinator. |
| **youth apprenticeship** | program designed for secondary students whereby the students are placed in apprenticeship positions with local employers, become indentured and registered as apprentices while completing their high school education. After high school program completion, the students continue their apprenticeship with an area business and post secondary institution.<br><br>Also known as **pre-apprenticeship** & **school-to-apprenticeship**. |

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